

REMARKS

Claims 1-7 were examined. Claim 1 is amended. Claims 8-35 are cancelled. Claims 36-40 are added. Claims 1-7 and 36-40 remain in the Application.

The Patent Office rejects claims 1, 4 and 5 under 35 U.S.C. §102(e). The Patent Office rejects claims 2-3 and 6-7 under 35 U.S.C. §103(a). Reconsideration of the pending claims is respectfully requested in view of the above amendments and the following remarks.

A. 35 U.S.C. §102(e): Rejection of Claims 1 & 4

The Patent Office rejects claims 1 and 4 under 35 U.S.C. §102(e) as anticipated by U.S. Patent No. 6,919,009 of Stonas, et al. (Stonas). Stonas discloses methods of forming metal particles by broadly electrodeposition, chemical deposition, evaporation, chemical self assembly, solid phase manufacturing techniques and photolithography techniques. See col. 9, lines 40-43.

Claims 1 and 4 describe a method including forming a metal particle of a size suitable for use as a catalyst in forming a nanotube by an electroless process in a bath; and depositing the particles on a semiconductor substrate.

Claims 1 and 4 are not anticipated by Stonas, because Stonas does not describe forming metal particles in a bath by an electroless process.

Applicant respectfully requests that the Patent Office withdraw the rejection to claims 1 and 4 under 35 U.S.C. §102(e).

B. 35 U.S.C. §102(e): Rejection of Claim 1, 4 & 5

The Patent Office rejects claims 1, 4 and 5 under 35 U.S.C. §102(e) as anticipated by Hoppe, et al. (Hoppe). According to the Patent Office, Hoppe describes catalytic materials that are electrochemically deposited in the bottom of pores to serve as a catalyst for carbon nanotube growth. Specifically, Hoppe describes a CVD technique where silicon is coated with a high purity metal film and the metal is then anodized to produce germination points or pores, and catalytic material is electrochemically deposited in the bottom of the pores. See col. 9, line 61 through col. 10, line 5.

Claims 1, 4 and 5 are not anticipated by Hoppe, because Hoppe does not describe forming a metal particle in a bath and depositing the particle on a substrate. The cited language of Hoppe appears to indicate that the catalytic material is formed on the substrate, not in a bath.

Applicant respectfully requests that the Patent Office withdraw the rejection to claims 1, 4 and 5 under 35 U.S.C. §102(e).

C. 35 U.S.C. §103(a): Rejection of Claim 2-3

The Patent Office rejects claims 2 and 3 under 35 U.S.C. §103(a) as obvious over Hoppe in view of Vossen, et al. "Thin Film Processes" (Vossen) or U.S. Patent No. 7,070,687 of Chikarmane, et al., (Chikarmane). Vossen and Chikarmane are cited for teaching an electroless process.

With respect to the Chikarmane reference, it and the pending Application are subject matter that, at the time the claimed invention recited in claims 2-3 was made, were owned by Intel Corporation or subject to an obligation of assignment to Intel Corporation. Accordingly, Chikarmane shall not preclude patentability under 35 U.S.C. §103(a).

Considering the rejection in terms of Hoppe combined with Vossen, Vossen describes electroless plating (electroless deposition). The process requires a suitable substrate, specifically a catalytic surface.

Claims 2-3 depend from claim 1 and, therefore, contain all the limitations of that claim. Claims 2-3 are not obvious over the cited references because the cited references fail to describe forming a metal particle in a bath and, once formed, depositing the particle on a semiconductor substrate. Vossen describes a plating process on a substrate. Any metal, M⁰, is formed on a surface of a substrate, not in a bath.

In summary, there is no motivation or suggestion or prediction from the cited art to practice the claimed method.

Applicant respectfully requests that the Patent Office withdraw the rejection to claims 2 and 3 under 35 U.S.C. §103(a).

D. 35 U.S.C. §103(a): Rejection of Claim 6 & 7

The Patent Office rejects claims 6 and 7 under 35 U.S.C. §103(a) as obvious over Hoppe in view of U.S. Patent No. 6,755,956 of Lee, et al. (Lee). Lee is cited for catalyst-induced growth of carbon nanotubes including catalysts of specific metals.

Claims 6-7 depend from claim 1 and therefore contain all the limitations of that claim. Claims 6 and 7 are therefore not obvious over the cited references, because the references fail to disclose or provide any motivation, suggestion or prediction of forming a metal particle in a bath and, once formed, depositing the particle on a semiconductor substrate.

Applicant respectfully requests that the Patent Office withdraw the rejection to claims 6 and 7 under 35 U.S.C. §103(a).

E. New Claims 36-40

Applicant adds new claims 36-40. The new claims are supported in the Application at, for example, paragraphs 17-19. Applicant respectfully request entry of the added claims.

CONCLUSION

In view of the foregoing, it is believed that all claims now pending patentably define the subject invention over the prior art of record and are in condition for allowance and such action is earnestly solicited at the earliest possible date.

If necessary, the Commissioner is hereby authorized in this, concurrent and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2666 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17, particularly extension of time fees.

Respectfully submitted,
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I hereby certify that this correspondence is being submitted electronically via EFS Web on the date shown below to the United States Patent and Trademark Office.

Nedy Calderon 9/28/07
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